

CONTROL ID: 2364761

TITLE: Processes Modifying Cratered Terrains on Pluto

ABSTRACT BODY:

Abstract (2,250 Maximum Characters): The July encounter with Pluto by the New Horizons spacecraft permitted imaging of its cratered terrains with scales as high as ~100 m/pixel, and in stereo. In the initial download of images, acquired at 2.2 km/pixel, widely distributed impact craters up to 260 km diameter are seen in the near-encounter hemisphere. Many of the craters appear to be significantly degraded or infilled. Some craters appear partially destroyed, perhaps by erosion such as associated with the retreat of scarps. Bright ice-rich deposits highlight some crater rims and/or floors. While the cratered terrains identified in the initial downloaded images are generally seen on high-to-intermediate albedo surfaces, the dark equatorial terrain informally known as Cthulhu Regio is also densely cratered. We will explore the range of possible processes that might have operated (or still be operating) to modify the landscape from that of an ancient pristinely cratered state to the present terrains revealed in New Horizons images. The sequence, intensity, and type of processes that have modified ancient landscapes are, among other things, *the* record of climate and volatile evolution throughout much of the Pluto's existence. The deciphering of this record will be discussed. This work was supported by NASA's New Horizons project.

CURRENT CATEGORY: Pluto System

CURRENT : None

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